

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

DENSYS LTD.,

Plaintiff,

v.

3SHAPE TRIOS A/S and 3SHAPE A/S,

Defendants.

Civil Action No. 6:19-cv-00680-ADA

**DEFENDANTS 3SHAPE TRIOS A/S AND 3SHAPE A/S'S
MOTION FOR SUMMARY JUDGMENT THAT THE ASSERTED CLAIMS OF THE
'707 PATENT ARE INVALID AS NON-ENABLED**

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<u>Abbreviation</u>	<u>Description</u>
'707 patent	U.S. Patent No. 6,40,707
3Shape	Defendants 3Shape A/S and 3Shape Trios A/S, collectively
Asserted Patent	U.S. Patent Nos. 6,40,707
Densys	Plaintiff Densys Ltd.
POSITA	Person of ordinary skill in the art

TABLE OF EXHIBITS

<u>Exhibit</u>	<u>Description</u>
1	U.S. Patent No. 6,402,707
2	Transcript of Teleconference <i>Markman</i> Hearing before the Honorable Alan D. Albright dated August 31, 2020 (Dkt. 53) (Excerpt)
3	Opening Expert Report of Dr. Parris Egbert dated March 15, 2021 (Excerpt)
4	Handbook of Computer Vision and Applications (Excerpt) [3S_DENSYS_0002787 at 3226-27]
5	Responsive Expert Report of Chandrajit Bajaj Ph.D. Regarding Validity of United States Patent No. 6,402,707 (Excerpt)

3Shape respectfully moves for summary judgment that the asserted claims of the '707 patent are invalid for lack of enablement.

I. INTRODUCTION

A patent must enable the *full* scope of the claims. It is not enough to enable only one embodiment, where the full scope of the claims is not limited to that embodiment. *See Automotive Techs. Int'l v. BMW of N. Am.*, 501 F.3d 1274, 1285 (Fed. Cir. 2007). The failure to enable even one embodiment of the claims is fatal to its validity. *Id.*

The claims of the '707 patent require, among other things, a “measuring and imaging device for measuring and imaging intra-oral objects and features located in the oral cavity.” (Ex. 1 at cls. 1 and 37.) The '707 patent identifies a laundry list of possible “measuring and imaging devices,” including sonar-based measuring devices. (*Id.* at 16:23-33; cls. 18, 54.) Enabling the full scope of the claim requires a disclosure that enables each of those possible “measuring and imaging devices,” including sonar-based measuring and imaging devices. The '707 patent lacks that disclosure.

There is no genuine dispute that (1) sonar-based measuring and imaging devices are within the scope of the claim, and (2) the specification fails to enable sonar-based measuring and imaging devices. 3Shape provided un rebutted evidence from its expert that a POSITA would not be able to make and use a sonar-based measuring and imaging device because it was not possible to use sonar to measure and image intra-oral sized objects and features at the time of the '707 patent. Because the '707 patent specification fails to enable sonar-based measuring and imaging devices, the claims are invalid for lack of enablement. *See Automotive Techs. Int'l*, 501 F.3d at 1285 (Fed. Cir. 2007).

Because enablement is a question of law, this issue is particularly ripe for disposition through summary judgment. (*See id.* at 1281.)

II. FACTUAL BACKGROUND

Both independent claims of the '707 patent recite a “measuring and imaging device for measuring and imaging the intraoral objects and features located in the oral cavity.” (*See* Ex. 1 at cls. 1, 37.) The asserted claims confirm that the “measuring and imaging device” has a broad scope that includes numerous categories of mechanisms, including “sonar” mechanisms:

18. The method of claim 1, wherein said **measuring and imaging device** is designed, configured, and operates according to a category of mechanisms used for three-dimensionally measuring and imaging of objects and features **selected from the group consisting of** electrical mechanisms, electronic mechanisms, electro-mechanical mechanisms, electro-optical mechanisms, electromagnetic mechanisms, radar mechanisms, magnetic mechanisms, magneto-mechanical mechanisms, magnetic resonance mechanisms, acoustic mechanisms, ultrasound mechanisms, **sonar mechanisms**, photo-acoustic mechanisms, telemetry mechanisms, hybrid mechanisms, and combination mechanisms thereof.

(Ex. 1 at cl. 18 (depends from independent claim 1); *see also id.* at cl. 54.) The specification likewise confirms the broad scope of the “measuring and imaging device,” again listing the same list of mechanisms, including “sonar” mechanisms. (Ex. 1 at 16:23-33.) Thus, from both the claims and the specification, it is apparent that “sonar” mechanisms fall within the scope of the “measuring and imaging device.”

This Court construed the claimed “measuring and imaging device” to have its plain and ordinary meaning. (Ex. 2 at 23:2-8.) The Court did not impose any limitations on the scope of conceivable mechanisms that could be used to implement the “measuring and imaging device.” (*Id.*) In other words, there is nothing in the Court’s constructions that would exclude any of the mechanisms for the “measuring and imaging device” identified in the claims and specification.

It is undisputed that the '707 Patent does not enable a sonar-based “measuring and imaging device,” and that, at the time of the invention, a POSITA would not have been able to

make and use a sonar-based measuring and imaging device. 3Shape’s technical expert provides a detailed explanation of why that is, and Densys’s expert does not challenge, or even address, those portions of the report. As such, Densys has no evidence to contradict the conclusion that the *full* scope of the claims is not enabled. The claims are therefore invalid.

Specifically, 3Shape’s expert, Dr. Parris Egbert, submitted an expert report that explained why the specification of the ’707 Patent fails to enable the full scope of the claimed “measuring and imaging device,” including the sonar mechanism. (*See* Ex. 3 at ¶¶ 114-134.) In particular, Dr. Egbert explained that a POSITA would not have been able to make or use a sonar-based “measuring and imaging device” because, at the time the ’707 patent was filed, it was not known how to use sonar to measure the small distances required to measure and image intra-oral objects and features; sonar could only measure and image objects and features of a much larger magnitude. (*See id.* at ¶¶ 109, 116 (citing Ex. 4 at 415-416).) Dr. Egbert also explained that extensive experimentation would have been required in view of the insufficient description in the specification. (*See id.* at ¶¶ 114-134.)

In response, rather than providing opinions that the full scope of the claims was enabled—that is, that all the listed mechanisms, including “sonar” were enabled—Densys’s technical expert, Dr. Chandrajit Bajaj, opined only that because one of the methods was enabled (the electro-optical method), it was “sufficient for a POSITA to practice the claimed invention.” (Ex. 5 at ¶102.) Dr. Bajaj did not substantively address the enablement of any mechanisms except electro-optical mechanisms and provided no explanation or analysis of how the specification enables the use of sonar in a “measuring and imaging device for imaging intra-oral objects.” (*See id.*)

III. LEGAL STANDARDS

A. Summary Judgment

“The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). *Celotex Corp. v. Catrett*, 477 U.S. 317, 322-25 (1986). To defeat a motion for summary judgment, the nonmoving party must “do more than simply show that there is some metaphysical doubt as to the material facts.” *Matsushita Elec. Indus. CO.*, 475 U.S. 574, 586-87 (1986). The “mere existence of *some* alleged factual dispute between the parties will not defeat an otherwise properly supported motion for summary judgment; the requirement is that there be no *genuine* issue of *material* fact.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247-48 (1986) (emphasis in original). “If the evidence is merely colorable...or is not significantly probative...summary judgment may be granted.” *Id.* at 249-50 (internal citations omitted).

B. Enablement

“The specification must enable the full scope of the claimed invention.” *Trustees of Boston Univ. v. Everlight Elecs.*, 896 F.3d 1357, 1364 (Fed. Cir. 2018); *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). “Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112 ¶ 1 is a question of law,” and “[e]nabling the full scope of each claim is ‘part of the *quid pro quo* of the patent bargain.’” *Sitrick*, 516 F.3d at 999. “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation.” *Genentech Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (citations omitted). Failure to enable even one embodiment or mode of the claims renders them invalid for lack of enablement. *See Automotive Techs.*, 501 F.3d at 1280.

IV. SUMMARY JUDGMENT IS APPROPRIATE BECAUSE THERE IS NO GENUINE DISPUTE THAT THE '707 PATENT FAILS TO ENABLE THE FULL SCOPE OF THE CLAIMED “MEASURING AND IMAGING DEVICE”

3Shape’s technical expert, Dr. Egbert, put forth un rebutted evidence that a POSITA could not practice the full scope of the claimed “measuring and imaging device.” In particular, Dr. Egbert provided opinions, supported by underlying and uncontroverted evidence, that the specification does not enable a sonar-based measuring and imaging device because (1) the specification does not teach how to use sonar to measure intraoral-sized objects and features (*e.g.* teeth), and (2) a POSITA would not have been able to make or use a sonar-based mechanism for intraoral imaging without undue experimentation. (*See e.g.*, Ex 3 at ¶ 109, 116, 132.) Dr. Egbert explained that at the time of the invention, sonar was only known to be capable of measuring objects much larger than teeth. (*Id.* at ¶ 109, 116.) Densys’s technical expert, Dr. Bajaj, did not rebut Dr. Egbert’s opinions regarding the lack of enablement of a sonar-based measuring and imaging device. (*See* Ex. 5 at ¶¶100-109 (failing to provide any explanation regarding the enablement of sonar).)

There is no dispute that the scope of the claimed “measuring and imaging device” includes devices using sonar. (Ex. 1 at cls. 1, 18, 37, 54.) And there is no genuine dispute that a POSITA would not have been able to implement a sonar-based “measuring and imaging device” for measuring and imaging intra-oral objects and features (*i.e.*, tooth-sized objects) without undue experimentation because sonar was not capable of measuring such small features at the time of filing of the ’707 patent. The specification’s failure to enable one category of mechanisms for the “measuring and imaging device” means that the full scope is not enabled, rendering the claims invalid for lack of enablement. *See Automotive Techs.*, 501 F.3d at 1280. Accordingly, this Court should grant summary judgment of invalidity of the ’707 patent.

A. The Claimed “Measuring and Imaging Device” Undisputedly Covers Embodiments That Use Sonar

There is no dispute that the claimed “measuring and imaging device” includes an embodiment based on sonar. As detailed above, both dependent claims 18 and 54, along with the specification, explicitly recite that the “measuring and imaging device” can be “designed, configured, and operate[d]” according to a category of “sonar mechanisms.” (Ex. 1 at cls. 18, 54; *see also id.* at 16:23-33 (providing the same disclosure in the specification).) And both parties’ experts agree that the claimed “measuring and imaging device” includes a sonar-based measuring and imaging device. (*See e.g.*, Ex. 3 at ¶ 109 (discussing sonar mechanisms within the context of the “measuring and imaging device”); Ex. 5 at ¶ 94 (explaining the measuring and imaging device includes a list of mechanisms, including sonar).)

B. The Specification Fails to Enable a Sonar-Based “Measuring and Imaging Device”

The ’707 patent fails to enable the full scope of the claimed “measuring and imaging device” because it fails to enable a sonar-based measuring and imaging device. The specification is completely devoid of any description or examples as to how a POSITA would implement a measuring and imaging device using a sonar mechanism. (*See* Ex. 3 at ¶¶ 109, 115-116.) Densys offers no rebuttal evidence or opinion that a POSITA would have known how to make or use a sonar-based measuring and imaging device for intra-oral imaging, and so this lack of description compels a finding of lack of enablement.

In *Automotive Techs. Int’l v. BMW of North America*, the Federal Circuit held the asserted claims that encompassed both mechanical and electronic side impact sensors invalid for lack of enablement because the specification failed to sufficiently address electronic side impact sensors, and therefore failed to enable the full scope of the claims. 501 F.3d at 1282, 1282-85. In particular, the court held that “one short paragraph and one figure [that] relate[d] to an

electronic sensor” were insufficient to enable the electronic side impact sensors because “that paragraph and figure do little more than provide an overview of an electronic sensor without providing any details of how the electronic sensor operates.” *Id.* at 1282-83. Similarly, in *Sitrick v. Dreamworks, LLC*, the Federal Circuit found claims that were “broad enough to cover both movies and video games” invalid for lack of enablement because the specification failed to describe how the claimed invention could be used in movies and, therefore, failed to enable the embodiment directed to movies. 516 F.3d at 1000-01.

The rationale underlying these decisions compels a finding of lack of enablement here because the ’707 patent specification does not disclose how the claimed “measuring and imaging device” could be designed, configured, or operated using a sonar mechanism. Without that disclosure, a POSITA would not be able to enable the full scope of the claimed invention as required under Federal Circuit precedent.

3Shape’s expert’s opinions are un rebutted and uncontested that, at the time the ’707 patent was filed, sonar was not capable of measuring intra-oral sized objects and features. (Ex. 3 at ¶¶ 109, 115-116.) The full scope of the ’707 patent is not enabled.

C. Neither Densys Nor its Expert Have Raised a Genuine Dispute as to the Enablement of a Sonar-Based “Measuring and Imaging Device”

Densys cannot establish a genuine issue of material fact as to the enablement of a sonar-based “measuring and imaging device.” It has no evidence to show that a POSITA would have been able to implement a “measuring and imaging device for measuring and imaging intra-oral objects” using sonar. Notably, Dr. Bajaj did not attempt to explain how a POSITA would have been able to make and use the claimed “measuring and imaging device” to measure and image intraoral objects and features using sonar without undue experimentation. (See Ex. 5 at ¶¶ 100-109.) In fact, Dr. Bajaj does not mention the word sonar once in his discussion regarding the

enablement of the claimed “measuring and imaging device.” (*Id.*) Instead, he contends that the specification’s examples of measuring and imaging devices using one of the other embodiments—electro-optical mechanisms—suffices, and makes only a conclusory statement that the “remaining mechanisms” are detailed in the specification. (*Id.* at ¶ 102.) These conclusory statements are insufficient to establish a genuine issue of material fact. *See Sitrick*, 516 F.3d 993 at 1001 (“Conclusory assertions cannot raise triable issues of material fact on summary judgment.”).

Further, Dr. Bajaj’s contention that the full scope of the claimed “measuring and imaging device” is enabled because one of the embodiments is enabled is legally incorrect. The full scope of a claim is not enabled by merely enabling one embodiment of the claimed invention. Rather, the specification must enable the full scope—that is *all*—of embodiments that fall within the claims. *See Automotive Techs.*, 501 F.3d at 1285 (“Disclosure of only [one of the multiple embodiments] does not permit one skilled in the art to make and use the invention as broadly as it was claimed.”); *Sitrick*, 516 F.3d at 1000 (“Because the asserted claims are broad enough to cover both movies and video games, the patents must enable both embodiments. Even if the claims are enabled with respect to video games—an issue we need not decide—the claims are not enabled if the patents do not also enable movies.”).) This is particularly true where, as here, the patent claims have a broad scope. *Sitrick*, 516 F.3d at 999 (“A patentee who chooses broad claim language must make sure the broad claims are fully enabled.”).

V. CONCLUSION

The undisputed, clear and convincing evidence establishes that a POSITA would not have been able to make the claimed “measuring and imaging device” using sonar at the time of filing of the ’707 patent. The patent is therefore invalid as a matter of law. Accordingly, 3Shape

respectfully requests this Court grant summary judgment that the asserted claims of the '707 patent are invalid for lack of enablement.

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